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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,332	11/26/2001	Stefan Wilhelm Jung	34648-469USPT P14470US	7410
27045	7590	04/16/2007		
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR 1-C-11 PLANO, TX 75024			EXAMINER JONES, PRENELL P	
			ART UNIT	PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/994,332

Applicant(s)

JUNG ET AL.

Examiner

Prenell P. Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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Response to Arguments

1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that the cited art fails to teach or suggest assigning a maximum number of channels for a specific mobile radio, and interruptions times related to A-TRAU and E-TRAU frame synchronization. Examiner agrees that the cited art fails to disclose a maximum number of channels for a specific mobile radio. With this in mind, Examiner performed an additional search.

On the other hand, Applicant is not claiming "interruptions times related to A-TRAU and E-TRAU frame synchronization," therefore; Examiner does not include these limitations in the search.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

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commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-5, 11-16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanerva et al (US Pat 6,240,076) in view of Lan et al (US PG PUB 2004/0214582) and Rasanen (US Pat 6,678,527).

Regarding claims 1, 5, 11, 12, 16 and 22, Kanerva et al (US Pat 6,240,076) discloses high-speed data transmission in a mobile communication network whereby in a circuit switched environment the transmission of traffic/communication channel are associated with timeslot allocation and reducing interference (monitoring quality of air interface) wherein the maximum capacity in reception and transmission (maximum channels allocated to mobile) associated with maximum data transfer rate that the mobile station will allow and using network parameters, the allowable/maximum channels are configured for each mobile station, wherein the data transfer rate is based on the desired grade of service requested by mobile subscriber and (monitoring quality of radio interface), wherein unused channels/timeslots are not released, but are kept allocated for the duration of the entire transmission/connection (Abstract, col. 4, line 1-60, col. 5, line 1-5, col. 9, line 48-65).

Although Kanerva discloses that the predefined parameters allow the mobile to change data transfer rates/timeslots/sub-streams in accordance with the needs and traffic load of network within limits set by parameters, wherein data transfer rate/timeslot/sub-streams are reduced in connection with handover, Kanerva does not

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specifically indicate allocation of sub-streams and changing mobile connection to fewer sub-streams if the quality of radio interface is below predefined level.

However, in a radio communication environment, Rasanen discloses managing the allocation of channels (sub-channels) or sub-streams to a mobile station (col. 5, line 6-47) wherein the architecture includes BSC, MSC and BTS (Fig. 1), and (Lan et al (US PGPUB 2004/0214582) discloses allocating timeslots/channels/sub-stream to mobile units according to a service class and QoS (channel/sub-stream assignment and timeslot assignment), wherein flexible timeslot assignment is utilized so as service quality associated with predefined interference level is satisfied throughout transmission connections, CIR/interference is monitored with respect to the number of allocated timeslots, assignment of timeslots are assigned dynamically, wherein number of timeslots are decreased or increased during connection as it is associated with the quality of network (Abstract, Fig. 14, 15, 21 and 22, paragraphs 0009, 0017, 0022, 0085, 0154-0160, 0170, 0186, 0187, 0189, 0270 and 0271).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement having the mobile change/reduce the number of sub-streams/channels/timeslots associated with mobile connection as taught by the combined teachings of Rasanen and Lan with the teachings of Kanerva for the purpose of further managing the allocation of resources/channels/sub-streams in a wireless radio environment with respect to desired quality of service by subscriber.

Regarding claims 2, 3, 13 and 14, Kanerva further discloses the network calculates maximum channels that can be allocated to mobile, which is the maximum channels that the mobile can accommodate, wherein maximum channels/sub-streams allocated with respect to one timeslots at a time, because the mobile is not able to use

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more than one timeslot in transmitting direction, wherein a timeslot can change during a connection, whereby the calculated channels are allocated to form a connection (col. 7, line 56 thru col. 8, line 50).

Regarding claim 4 and 15, Kanerva further discloses a network calculating allocation of channels/sub-streams to mobile with respect to timeslots because timeslots are used for transmitting, which is the maximum number of channels the mobile can handle (col. 7, line 33 thru col. 8, line 18).

4. Claims 6, 10, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanerva et al (US Pat 6,240,076) in view of Lan et al (US PG PUB 2004/0214582) and Rasanen (US Pat 6,678,527) as applied to claims 1-5 and 12-16 above, and further in view of Walton et al (US PG PUB 20030125040).

Regarding claim 6, 10, 17 and 21, as indicated above, combined Kanerva and Lan teaches allocation of channels with respect to timeslots in a wireless radio communication system, wherein channels are allocated with respect to mobile subscriber desired service level, such as interference, whereby the number of channels are adjusted with respect to system quality. Although it is known in the art that the use of coding allows for the changing of channels which allows for performance enhancement, both Kanerva and Lan fail to teach or suggest utilizing changing codes/coding schemes.

However, in a wireless communication system where channels and sub-channels/sub-streams and time slots are allocated, Walton discloses adjusting the

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coding and modulation schemes based on channel information (paragraph 0011, 0123, 0130, 0390-0404, 0414).

Therefore, it would have been obvious to utilize changing coding and modulation scheme as taught by Walton with the combined teachings of Kanerva and Lan for the purpose of further managing allocation of resources in a wireless communication system as well as increasing network performance.

5. Claims 7-9 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanerva et al (US Pat 6,240,076) in view of Lan et al (US PGPUB 2004/0214582) and Rasanen (US Pat 6,678,527) as applied to claims 1-5 and 12-16 above, and further in view of Walton et al (US PGPUB 20030125040) and Halvorson (US Pat 6,208,859).

Regarding claims 7-9 and 18-20, as indicated above, as indicated above, combined Kanerva, Lan, Rasanen and Walton teaches allocation of channels with respect to timeslots in a wireless radio communication system, wherein channels are allocated with respect to mobile subscriber desired service level, such as interference, whereby the number of channels are adjusted with respect to system quality, and utilize changing coding and modulation for schemes with respect to channel information.

However, in a wireless satellite mobile radio communication system wherein the architecture includes a plurality of mobile stations/mobile terminals in communication with BS or LES or GES defines and distributes the maximum number of channels that can be used to operate in a connection, Halvorson discloses making use of or switching coding schemes during a blockage/interference with respect to outbound and inbound signaling with respect to changes in resources being utilized in a connection, and monitoring blockage/interference which decreases quality of signaling (col. 19, line 19-

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30, col. 20, line 53 thru col. 21, line 16, thru col. 22, line 61). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement coding with respect to in-band signaling as well as out-bound signaling as taught by Halvorson with the combined teachings of Kanerva, Lan, Rasanen and Walton for the purpose of further managing and monitoring allocation of resources in a wireless environment, as well as increasing network performance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones

April 10, 2007


CHI PHAM
SUPERVISORY PATENT EXAMINER

4/12/07